

Teachers' AI digital competencies and twenty-first century skills in the post-pandemic world

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Abstract

The pandemic has catalyzed a significant shift to online/blended teaching and learning where teachers apply emerging technologies to enhance their students' learning outcomes. Artificial intelligence (AI) technology has gained its popularity in online learning environments during the pandemic to assist students' learning. However, many of these AI tools are new to teachers. They may not have rich technical knowledge to use AI educational applications to facilitate their teaching, not to mention developing students' AI digital capabilities. As such, there is a growing need for teachers to equip themselves with adequate digital competencies so as to use and teach AI in their teaching environments. There are few existing frameworks informing teachers of necessary AI competencies. This study first explores the opportunities and challenges of employing AI systems and how they can enhance teaching, learning and assessment. Then, aligning with generic digital competency frameworks, the DigCompEdu framework and P21's framework for twenty-first century learning were adapted and revised to accommodate AI technologies. Recommendations are proposed to support educators and researchers to promote AI education in their classrooms and academia.